



Flight Report

Operation Ice Bridge Spring 2012

UAF Alaska Flight No 4

Mission Plan: Harvard and Columbia Glaciers, transit Palmer to Ultima Thule

Flight Report Summary

Aircraft	DHC-3 Otter
Flight Number	DHC3-4
Flight Request	12M014
Flight Hours	4.2
Take off time	18:49 Z from Palmer
Landing time	22:49 Z at Ultima Thule (with fuel stop at Gulkana)
Date	March 20, 2012
Purpose of Flight	LiDAR and Radar surveys of glaciers within the Chugach Range, Alaska.
Aircraft Status	Airworthy.
Sensor Status	operational.
Significant Issues	none.
Accomplishments	<ul style="list-style-type: none">• Radar bed mapping of Harvard and Columbia Glaciers• LiDAR centerline profiles and cross profiles of Harvard and Columbia Glaciers.• Conducted one pass over runway at Palmer airport for LiDAR instrument calibration.• DMS photogrammetry from 12,500 ft of Columbia.

Science Data Report Summary

This mission performed LiDAR surveys and radar bed mapping of glaciers within the Chugach Range, Alaska.

Geographic keywords: (Chugach Range, Alaska)

Repeat Mission: yes

Instrument	Instrument Operational		Data Volume	Instrument Issues
	Target area	Entire Flight		
UAF LiDAR	Yes	YES	1 GB	None
GPS	Yes	YES	50 MB	None
IMU	Yes	Yes	1 GB	None
JPL Warm Ice Sounding Explorer (WISE) radar	yes	Just over the glaciers	16 GB	None

Mission Log (Chris Larsen)

Weather conditions were good at first. We successfully mapped the bed of Harvard Glacier, but then the wind built as the day progressed and we had to abort the low level surveys of the Columbia Glacier after sounding the upper main branch. We climbed high and took wide area vertical photographs of the Columbia with the DMS. From there, we went to Gulkana for fuel, then to Ultima Thule (our remote base of operations) from where we will continue the rest of the campaign.

Individual instruments on board the aircraft:

LiDAR: The UAF LiDAR system worked well.

GPS: System worked normally. No problems.

Warm Ice Sounding Explorer (WISE) radar: System worked great.

IMU: System worked well. No issues.

DMS: System worked well. No issues.

